Ministry of
Transportation and
Communications

Ontario

MI-58

PETRO-TAC DUST PALLIATIVE

MATERIALS INFORMATION

ENGINEERING MATERIALS OFFICE

PETRO-TAC

DUST

PALLIATIVE

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ENGINEERING MATERIALS OFFICE
BITUMINOUS SECTION

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1.0 INTRODUCTION

Current dust palliatives used by the Ministry and Municipalities include calcium chloride and waste oil. Petro-Tac was introduced by Canam Oil Services of Breslau, Ontario, as an alternate to these two materials.

Petro-Tac is an emulsified product made from asphalt, tackifiers and aromatic oils. It is brought to the job site, diluted with water, and sprayed on a prepared granular base.

This report details the field trials and performance of Petro-Tac.

1.1 Guidelines for Dust Palliative Trials

The Ministry requires that new products such as Petro-Tac be used under field conditions adjacent to comparative products such as waste oil and liquid calcium chloride so that performance can be compared.

The guidelines are outlined in appendix 7.4.

2.0 CONSTRUCTION

2.1 Dilution Procedure

Petro-Tac was delivered to the job site in concentrated form, and diluted by adding locally available water. Water usually from a pond or a stream was pumped into a predetermined volume of Petro-Tac, and diluted at 3:1, 4:1 or 6:1 ratios. After a brief period of mixing, the Petro-Tac was ready to spray.

In Wasaga Beach, town water from a hydrant caused slugs to form, which plugged the pump. When water was taken from the river, no problems were encountered.

2.2 Equipment

The standard distributor used to spray waste oil was used to spray Petro-Tac.

2.3 Spraying

A summary of the test sites can be found in Table 1 of the Appendix. Also, in the Appendix are the evaluation sheets completed at each test site. The following details the spraying of the Petro-Tac and alternate products at each site.

Muskoka Road 8

The grade was recently constructed with about 3 cm of loose float. The road was damp at the time of spraying.

The Petro-Tac was diluted at 6:1, and sprayed at 0.51 gal./sq.yd. over a 30 ft. width. A second application approximately 1 - 1½ hours after the first, also at 6:1, was sprayed at 0.45 gal./sq.yd. over a 24 ft. width. The average application rate was 0.62 gal./sq. yd. at a 4:1 dilution ratio. The combined applications soaked into the granular grade approximately 3 cm. There was little or no tracking, pick up, run off or splashing onto vehicles of the fresh Petro-Tac.

Muskoka Road 30

The granular grade was newly constructed with approximately 2 cm of loose float. The road was damp at the time of spraying. Petro-Tac was diluted at a 6:1 ratio, and sprayed at 0.50 gal./sq.yd., 30 ft. wide. A second application, about 1 - 2 hours after the first, was at a 3:1 dilution ratio, and sprayed at 0.47 gal./sq.yd. over a 24 ft. width. The average rate for both applications was 0.75 gal./sq. yd. at a 4:1 dilution ratio.

The Petro-Tac soaked into the granular grade approximately 3 cm. There was no tracking, pick up, or run off of the Petro-Tac. The splashing up onto passing vehicles was minimal.

Concession 3
Tosorontio Township

Both Petro-Tac and waste oil were applied on Concession 3 on 83 06 01. Fresh gravel was added to Concession 3 this year, so that there was no residue of previous dust palliatives in the gravel. The granular material was clean and damp with 3 cm of loose float at the time of spraying. The Petro-Tac was diluted prior to arrival on the site at a 4:1 ratio. Two applications were made: 0.38 gal./sq.yd. at 16 ft. wide and 0.14 gal./sq.yd. 12 ft. wide for an average rate of 0.49 gal./sq. yd. There was little or no tracking, pick up, run off or splashing onto passing vehicles.

The waste oil was applied in a single application at 0.27 gal./sq.yd. Traffic tracked the waste oil moderately onto the adjacent county road. Splashing onto passing vehicles was light. Concession 3 was closed to traffic while spraying Petro-Tac and waste oil.

On 83 06 28, a second application of Petro-Tac at 0.49 gal./sq.yd. was made due to the dusty conditions. About 1/3 of the waste oil section was resprayed with waste oil because of dusty conditions.

Ramblewood Drive and Various Streets
Town of Wasaga Beach

The condition of the granular grades on the streets varied from sandy to gravely. Many of the streets had been sprayed in past years with waste oil. Ramblewood Drive was dry and dusty with very little waste oil residue visible. A single application of Petro-Tac was sprayed at 0.42 gal./sq.yd. at 4:1 dilution ratio. The Petro-Tac did not soak into the grade uniformly, but left small circles of gravel showing through.

The Petro-Tac penetrated into the granular grade about 1 cm. Tracking onto adjacent pavements, pick up and run off was not observed. Splashing of the freshly sprayed Petro-Tac was minimal.

Power Line Road was sprayed with waste oil at approximately 0.30 gal./ sq.yd. over a length of 2.7 km.

Crescent Avenue
Innisfil Township

A Ministry representative was not present during the application of Petro-Tac.

Line 5
Innisfil Township

A Ministry representative was not present during the application of Petro-Tac or waste oil.

Road 66
Woolwich Township

A Ministry representative was not present during the application of Petro-Tac.

3.0 PERFORMANCE

The Petro-Tac and comparative materials were inspected for ability to control dust by observing a passing vehicle, and by estimating the roughness of the road. Inspection sheets were completed, and can be found in Appendix 7.3.

Muskoka Road 8

One week after spraying the Petro-Tac, Road 8 dust control was rated good. Thirty percent of the surface area was hard packed (stabilized by the Petro-Tac) resulting in no dust from a passing vehicle. The remaining seventy percent of surface area had loose float, resulting in light dust. The hard pack gradually became loose, and had to be graded within 10 days of spraying. Dust control remained satisfactory for three weeks after application. After three weeks, the dust control was not satisfactory. Road 8 had to be graded at least once a week beginning 10 days after the Petro-Tac application.

Muskoka Road 30

One week after spraying, the Petro-Tac dust control was rated as good. Most of the surface area was hard packed with some sections with loose float. Dust control remained satisfactory for about eight weeks. During the eight weeks, light grading was necessary. Beyond eight weeks, dust control was fair to poor, and weekly grading was necessary.

Concession 3
Tosorontio Township

One week after spraying the Petro-Tac, there was moderate dust from passing vehicles in the areas with loose gravel. Two weeks after spraying, there was moderate dust from passing vehicles over the full length of the test section. Three weeks after spraying, the dust control was rated poor. The road was not graded during this interval.

The control section on Concession 3 was sprayed with waste oil. One week after spraying, there was no dust behind passing vehicles. Loose float was present over twenty percent of the area. Two weeks after spraying, there was light dust in the loose sections at the northerly end, and no dust in the hard packed south end. Three weeks after spraying, there was moderate dust at the north end, and none to light dust at the south end. The road was rough, and in need of grading.

On 83 06 28, twenty-seven days after spraying, the Petro-Tac section was completely resprayed with Petro-Tac. Twelve weeks after the second spraying, the dust control was poor over seventy five percent of the length, and fair over the remaining twenty five percent.

Waste oil was also sprayed on 83 06 28 over approximately one third of the waste oil control section. Twelve weeks after the second spraying, the dust control was fair-good over fifty five percent of the length, and fair over the remaining forty five percent of the length. After twelve weeks, the road was rough, and in need of grading, especially at the north end.

Ramblewood Drive and Various Streets
Town of Wasaga Beach

Five days after spraying, dust control was good. One month after spraying, dust control was fair to good. Some sections were in need of light grading. Fifteen weeks after spraying, dust control was fair with the rougher sections having been graded twice. The maximum speed limit on the streets is 50 km/h, and all dust ratings were taken at this speed.

Power Line Road, the waste oil control section, has 80 km/h traffic, and was dust free five days after spraying with waste oil. One month after spraying, light dust was visible behind passing vehicles, and the curves had been graded. Fifteen weeks after spraying, the dust control was rated at fair after eight gradings.

Crescent Avenue
Innisfil Township

Crescent Avenue in Alcona Beach was dust free two weeks after spraying Petro-Tac, but was in need of grading. Crescent Avenue is located in a high water table area, and remains damp. The maximum speed is 50 km/h. Four weeks after spraying, the dust control rating was good. The dust control remained fair to good over a nine week period. In the second week of July, after nine weeks, the Petro-Tac was covered with 15 cm of Granular 'A', and calcium chloride was applied.

Line 5
Innisfil Township

Two weeks after spraying Petro-Tac, the dust control rating was good, but Line 5 was potholed, and in need of grading. Four weeks after spraying, the dust control rating was fair to good. Eight weeks after spraying, the Petro-Tac was graded and sprayed with waste oil.

Road 66
Woolwich Township

Road 66 had received two applications of Petro-Tac, the first on 83 04 28, and the second on 83 05 27. Four weeks after the last application, Road 66 was dust free with moderate potholing. Sixteen weeks after the second application, the dust control rating was fair. Road 66 had not been graded during the summer, but was in need of grading as of 83 09 15.

4.0 COST COMPARISON

The minimum application rate of Petro-Tac used in the trial areas was 0.42 gal./sq.yd. Medium applications of waste oil and calcium chloride are considered to be 0.25 gal./sq.yd. and 2 lbs./sq.yd. respectively. Using unit prices of 44¢/gal., diluted at 4:1, for Petro-Tac, 72¢/gal. for waste oil, and $156/ton for calcium chloride, the cost per mile x 16 feet wide calculates to:

Petro-Tac	3943	x 0.44	=	$1,734.92
Waste Oil	2347	x 0.72	=	$1,689.84
Calcium Chloride	9.387	x 156.00	=	$1,464.37

5.0 OBSERVATIONS AND CONCLUSIONS

1. Petro-Tac does not control dust as well as waste oil.

2. Petro-Tac is more costly than waste oil and calcium chloride.

3. Petro-Tac does control dust in low traffic volumes, low speed roads in selected types of granular materials that are dense and well compacted.

4. The dust control effectiveness of Petro-Tac is reduced in cleaner type granular materials that are difficult to compact.

5. The minimum application rate of Petro-Tac appears to be 0.42 gal./sq.yd.

6. Petro-Tac controls dust better at higher application rates such as 0.75 - 0.90 gal./sq.yd.

7. Petro-Tac does not control dust adequately when traffic volumes are 250 AADT and greater.

6.0 RECOMMENDATIONS

1. Petro-Tac should not be considered for use by the Ministry for routine dust control applications.

2. Petro-Tac may be used on low traffic volume, low speed roads where granular types are suitable.

LOCATION	PETRO-TAC					COMPARATIVE PRODUCT					
	DATE SPRAYED	APPLICATION[2] RATE (GAL/SQ YD)	DUST CONTROL RATING	DEGREE OF POTHOLING	TIMES RE-GRADED AFTER APPLICATION	TYPE	DATE SPRAYED	APPLICATION RATE (GAL/SQ YD)	DUST CONTROL RATING	DEGREE OF POTHOLING	TIMES RE-GRADED
Muskoka Road 8	83 06 08	0.62	Poor	Heavy[3]	14[1]	N/A	-	-	-	-	-
Muskoka Road 30	83 06 08	0.75	Fair	Moderate	10[1]	N/A	-	-	-	-	-
Concession 3 Tosoronto Twp.	83 06 01	0.49	Poor	Moderate	0	Waste Oil	83 06 01	0.27	Fair	Moderate	0
Concession 3 Tosoronto Twp.	83 06 28[4]	0.49	Poor	Heavy	0	Waste Oil	83 06 01[4]	0.20[1]	Fair	Moderate	0
Streets, Town of Wasaga Beach	83 06 09	0.42	Fair to Good	Moderate	2	Waste Oil	83 06 09	0.30[1]	Fair	Moderate	8
Cresent Ave. Innisfil Twp.	83 05 13	0.45	Good	Moderate	1	N/A	-	-	-	-	-
Line 5 Innisfil Twp.	83 05 13	0.45[1]	Fair	Moderate	0	Waste Oil	83 05 13[1]	.20[1]	Fair to Good	Moderate	0
Road 66 Woolwich Twp.	83 04 28	0.45[1]	Good	Light	0	N/A	-	-	-	-	-
Road 66 Woolwich Twp.	83 05 27[4]	0.45[1]	Fair	Moderate	0	N/A	-	-	-	-	-

Notes:
1. Estimated.
2. At 4:1 Dilution Ratio.
3. Petro-Tac did not form a hard surface resulting in washboard surfaces, rather than potholes.
4. Second Application.

TABLE 1, PETRO-TAC ROADWAY SITES

7.2 EVALUATION OF DUST PALLIATIVE APPLICATION

ROAD Muskoka Road #8 MUNICIPALITY Dist. of Muskoka AADT 300

NEW PRODUCT LOCATION: FROM 12.6 km North Hwy. 60 TO Northerly 1 km

COMPARATIVE PRODUCT LOCATION: FROM N/A TO

NEW PRODUCT COST $3001 per km COMPARATIVE PRODUCT COST N/A per km
30' wide 44¢/gal.

CONDITION OF GRANULAR GRADE	NEW PRODUCT Petro-Tac	COMPARATIVE PRODUCT N/A
Granular From	Pit ☒ Quarry ☐	Pit ☐ Quarry ☐
Granular Condition	Clean ☐ Dirty ☐ Sandy ☒	Clean ☐ Dirty ☐ Sandy ☐
Graded	Yes ☒ No ☐	Yes ☐ No ☐
Compacted	Yes ☐ No ☒	Yes ☐ No ☐
Depth of Loose Float	3 cm	cm
Moisture Condition of Grade	Dry ☐ Damp ☒ Wet ☐	Dry ☐ Damp ☐ Wet ☐
Treated Previously with Dust Palliative?	Yes ☐ No ☒	Yes ☐ No ☐
If yes specify type and years	Type Year(s)	Type Year(s)
Remarks	Newly constructed. Very dusty.	

APPLICATION RATES	NEW PRODUCT Petro-Tac	COMPARATIVE PRODUCT N/A
Length	1.00 km } 10,936.4	km
Width	30 ft } sq.yds.	ft
Concentrate	gal	gal
Dilution	9550 @ 6:1 gal 6821 @ 4:1	gal
Dilution Ratio	6 : 1	:
Application Rate	0.62 gal/sq yd	gal/sq yd
	Added water on the job 30' @ 0.51 6:1, 24' @ 0.45 6:1	

RATING

1 None, 2 Light, 3 Moderate, 4 Heavy

SPRAYING	NEW PRODUCT Petro-Tac	COMPARATIVE PRODUCT N/A
Date	83 06 08	
No. of Applications	Single ☐ Double ☒ Other ☐	Single ☐ Double ☐ Other ☐
Penetration	30 ± mm	mm
Tracking	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Pick Up	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Run Off	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Splashing Onto Vehicle	1 ☐ 2 ☒ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 44 ☐
Remarks	Added water on the job site.	

7.2 EVALUATION OF DUST PALLIATIVE APPLICATION

ROAD Road #30 MUNICIPALITY Dist. of Muskoka AADT 200

NEW PRODUCT LOCATION: FROM 4.0 km North Hwy. 169 TO Northerly 0.7 km

COMPARATIVE PRODUCT LOCATION: FROM N/A TO

NEW PRODUCT COST $3631 per km (30' wide) COMPARATIVE PRODUCT COST N/A per km (44¢/gal.)

CONDITION OF GRANULAR GRADE	NEW PRODUCT Petro-Tac	COMPARATIVE PRODUCT N/A
Granular From	Pit ☒ Quarry ☐	Pit ☐ Quarry ☐
Granular Condition	Clean ☐ Dirty ☒ Sandy ☐	Clean ☐ Dirty ☐ Sandy ☐
Graded	Yes ☒ No ☐	Yes ☐ No ☐
Compacted	Yes ☐ No ☒	Yes ☐ No ☐
Depth of Loose Float	2 cm	cm
Moisture Condition of Grade	Dry ☐ Damp ☒ Wet ☐	Dry ☐ Damp ☐ Wet ☐
Treated Previously with Dust Palliative?	Yes ☐ No ☒	Yes ☐ No ☐
If yes specify type and years	Type Year(s)	Type Year(s)
Remarks	Newly constructed.	

APPLICATION RATES	NEW PRODUCT Petro-Tac	COMPARATIVE PRODUCT N/A
Length	0.62 km } 6780.6	km
Width	30 ft } sq.yd.	ft
Concentrate	gal	gal
Dilution	5115 @ 4:1 gal	gal
Dilution Ratio	6:1 & 3:1	:
Application Rate	0.75 @ 4:1 gal/sq yd Added water on the job 30' @ .36 4:1 20' @ .59 4:1	gal/sq yd

RATING

1 None, 2 Light, 3 Moderate, 4 Heavy

SPRAYING	NEW PRODUCT Petro-Tac	COMPARATIVE PRODUCT N/A
Date	83 06 08	
No. of Applications	Single ☐ Double ☒ Other ☐	Single ☐ Double ☐ Other ☐
Penetration	30 ± mm	mm
Tracking	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Pick Up	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Run Off	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Splashing Onto Vehicle	1 ☐ 2 ☒ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 44 ☐
Remarks	Water added on the job site.	

7.2 EVALUATION OF DUST PALLIATIVE APPLICATION

ROAD Concession 3 MUNICIPALITY Tosorontio Twp. AADT 100 est.

NEW PRODUCT LOCATION: FROM 0.2 km North 17 S.R. TO Northerly 1.2 km

COMPARATIVE PRODUCT LOCATION: FROM County Road # 7 TO Northerly 4.2 km

NEW PRODUCT COST $1250 per km (16' wide 44¢/gal.) COMPARATIVE PRODUCT COST $1112 per km (16' wide 70.75¢/gal.)

CONDITION OF GRANULAR GRADE	NEW PRODUCT Petro-Tac	COMPARATIVE PRODUCT Waste Oil
Granular From	Pit ☒ Quarry ☐	Pit ☒ Quarry ☐
Granular Condition	Clean ☒ Dirty ☐ Sandy ☐	Clean ☒ Dirty ☐ Sandy ☐
Graded	Yes ☒ No ☐	Yes ☒ No ☐
Compacted	Yes ☐ No ☒	Yes ☐ No ☒
Depth of Loose Float	3 cm	3 cm
Moisture Condition of Grade	Dry ☐ Damp ☒ Wet ☐	Dry ☐ Damp ☒ Wet ☐
Treated Previously with Dust Palliative?	Yes ☐ No ☒	Yes ☐ No ☒
If yes specify type and years	Type Year(s)	Type Year(s)
Remarks	Fresh gravel added recently.	Fresh gravel added recently.

APPLICATION RATES	NEW PRODUCT Petro-Tac	COMPARATIVE PRODUCT Waste Oil
Length	1.2 km	4.2 km
Width	16 ft	16 ft
Concentrate	N/A gal	N/A gal
Dilution	3400 gal	6600 gal
Dilution Ratio	4 : 1	: N/A
Application Rate	0.49 (Aveg.) gal/sq yd 16' @ 0.38 12' @ 0.14	0.27 gal/sq yd

RATING

1 None, 2 Light, 3 Moderate, 4 Heavy

SPRAYING	NEW PRODUCT Petro-Tac	COMPARATIVE PRODUCT Waste Oil
Date	83 06 01	83 06 01
No. of Applications	Single ☐ Double ☒ Other ☐	Single ☒ Double ☐ Other ☐
Penetration	13 mm	6 mm
Tracking	1 ☐ 2 ☒ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☒ 4 ☐
Pick Up	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☒ 2 ☐ 3 ☐ 4 ☐
Run Off	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☒ 2 ☐ 3 ☐ 4 ☐
Splashing Onto Vehicle	1 ☐ 2 ☒ 3 ☐ 4 ☐	1 ☐ 2 ☒ 3 ☐ 44 ☐
Remarks	Road closed to traffic. Petro-Tac came to job already diluted.	Road closed to traffic.

Note: 3400 gal. Petro-Tac and 2200 gal. waste oil applied for the second time on 83 06 28.

7.2 EVALUATION OF DUST PALLIATIVE APPLICATION

ROAD Ramblewood Dr. and various streets MUNICIPALITY Town of Wasaga Beach AADT 50 ±

NEW PRODUCT LOCATION: FROM Various streets TO _____

COMPARATIVE PRODUCT LOCATION: ~~FROM~~ Powerline Rd. TO _____

NEW PRODUCT COST N/A per km COMPARATIVE PRODUCT COST N/A per km

CONDITION OF GRANULAR GRADE	NEW PRODUCT Petro-Tac	COMPARATIVE PRODUCT Waste Oil
Granular From	Pit ☒ Quarry ☐	Pit ☒ Quarry ☐
Granular Condition	Clean ☐ Dirty ☒ Sandy ☒	Clean ☐ Dirty ☐ Sandy ☒
Graded	Yes ☒ No ☐	Yes ☒ No ☐
Compacted	Yes ☐ No ☒	Yes ☐ No ☒
Depth of Loose Float	2 cm	N/A cm
Moisture Condition of Grade	Dry ☒ Damp ☐ Wet ☐	Dry ☐ Damp ☐ Wet ☐ N/A
Treated Previously with Dust Palliative?	Yes ☒ No ☐	Yes ☐ No ☐ N/A
If yes specify type and years	Type W. Oil Year(s) 1982	Type Year(s) N/A
Remarks	No trace of oil left, in sections. Traces in other sections. Grade not consistent. Sandy sections, gravelly sections.	Not present during spraying.

APPLICATION RATES	NEW PRODUCT Petro-Tac	COMPARATIVE PRODUCT Waste Oil
Length	_____ km	2.7 km
Width	24 ft	22 ft
Concentrate	_____ gal	_____ gal
Dilution	12,500 gal Total	_____ gal
Dilution Ratio	4 : 1	:
Application Rate	0.42 gal/sq yd Approx. (From M. Cressman)	.30 gal/sq yd (From Sid Taylor)

RATING

1 None, 2 Light, 3 Moderate, 4 Heavy

SPRAYING	NEW PRODUCT Petro-Tac	COMPARATIVE PRODUCT Waste Oil
Date	83 06 09	83 06 09
No. of Applications	Single ☒ Double ☐ Other ☐	Single ☐ Double ☐ Other ☐
Penetration	10 mm	N/A mm
Tracking	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Pick Up	1 ☐ 2 ☐ 3 ☒ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Run Off	1 ☐ 2 ☒ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Splashing Onto Vehicle	1 ☐ 2 ☒ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 44 ☐
Remarks	Tiny spots not covered (dime size). Petro-Tac plugged pump when mixed with Town water from hydrant. River water okay.	Not present when sprayed.

7.3 FOLLOW-UP DUST PALLIATIVE INSPECTIONS

Road Muskoka Road #8

Municipality Muskoka District AADT 300

Rating

1 None, 2 Light, 3 Moderate, 4 Heavy

INSPECTION DATE: 83 06 15 DATE SPRAYED: 83 06 08

	New Product Petro-Tac	Comparative Product N/A
No. of Times Graded	0	
Date of Last Grading	N/A	
Dust From Car Travelling at 80 km/h	(a) (b) 1 ☒ 2 ☒ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Potholing Frequency	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Remarks	(a) 30% hard packed. (b) 70% loose gravel. Good condition.	

INSPECTION DATE: 83 09 14 DATE SPRAYED: 83 06 08

	New Product Petro-Tac	Comparative Product N/A
No. of Times Graded	14	
Date of Last Grading	N/A	
Dust From Car Travelling at 80 km/h	1 ☐ 2 ☐ 3 ☐ 4 ☒	1 ☐ 2 ☐ 3 ☐ 4 ☐
Potholing Frequency	1 ☐ 2 ☐ 3 ☐ 4 ☒	1 ☐ 2 ☐ 3 ☐ 4 ☐
Remarks	Remarks from W. MacDonald and J. Walker: Dust control lasted 3 weeks. Dusty after 3 weeks.	

7.3 FOLLOW-UP DUST PALLIATIVE INSPECTIONS

Road Muskoka Road #30

Municipality District of Muskoka AADT 200

Rating

1 None, 2 Light, 3 Moderate, 4 Heavy

INSPECTION DATE: 83 06 14 DATE SPRAYED: 83 06 08

	New Product Petro-Tac	Comparative Product N/A
No. of Times Graded	0	
Date of Last Grading	N/A	
Dust From Car Travelling at 80 km/h	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Potholing Frequency	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Remarks	Hard packed and loose gravel sections. Good condition.	

INSPECTION DATE: 83 09 14 DATE SPRAYED:

	New Product Petro-Tac	Comparative Product N/A
No. of Times Graded	10	
Date of Last Grading	N/A	
Dust From Car Travelling at 80 km/h	1 ☐ 2 ☐ 3 ☐ 4 ☒	1 ☐ 2 ☐ 3 ☐ 4 ☐
Potholing Frequency	1 ☐ 2 ☐ 3 ☒ 4 ☒	1 ☐ 2 ☐ 3 ☐ 4 ☐
Remarks	Remarks from W. MacDonald and D. Dwyer: Dust control good until 83 07 31. Poor dust control after 83 07 31.	

7.3 FOLLOW-UP DUST PALLIATIVE INSPECTIONS

Road Concession 3

Municipality Tosorontio **AADT** 100 (Estimated)

Rating

1 None, 2 Light, 3 Moderate, 4 Heavy

INSPECTION DATE: 83 06 08 **DATE SPRAYED:** 83 06 01

	New Product Petro-Tac	Comparative Product Waste Oil
No. of Times Graded	0	0
Date of Last Grading	N/A	N/A
Dust From Car Travelling at 80 km/h	1☐ 2☐ 3☒ 4☐	1☒ 2☐ 3☐ 4☐
Potholing Frequency	1☒ 2☐ 3☐ 4☐	1☒ 2☐ 3☐ 4☐
Remarks	Considerable loose float.	Considerable loose float.

INSPECTION DATE: 83 06 14 **DATE SPRAYED:** 83 06 01

	New Product Petro-Tac	Comparative Product Waste Oil
No. of Times Graded	0	Oil 0
Date of Last Grading	N/A	N/A
Dust From Car Travelling at 80 km/h	1☐ 2☐ 3☒ 4☐	(a) (b) 1☒ 2☒ 3☐ 4☐
Potholing Frequency	1☒ 2☐ 3☐ 4☐	1☒ 2☐ 3☐ 4☐
Remarks	Loose float. Black crust gone. Acceptable condition.	(a) South end. (b) North end - strip in centre without oil.

INSPECTION DATE: 83 06 24 **DATE SPRAYED:** 83 06 01

	New Product Petro-Tac	Comparative Product Waste Oil
No. of Times Graded	0	0
Date of Last Grading	N/A	N/A
Dust From Car Travelling at 80 km/h	1☐ 2☐ 3☐ 4☒	(a) (b) 1☒ 2☐ 3☒ 4☐
Potholing Frequency	1☒ 2☐ 3☐ 4☐	(a) (b) 1☒ 2☒ 3☐ 4☐
Remarks	Very dusty. Plan to re-spray week of June 27, 1983 at no charge.	(a) South end. (b) North end.

7.3 FOLLOW-UP DUST PALLIATIVE INSPECTIONS

Road Concession 3

Municipality Tosorontio **AADT** N/A

Rating

1 None, 2 Light, 3 Moderate, 4 Heavy

INSPECTION DATE: 83 09 15 DATE SPRAYED: 83 06 28

	New Product Petro-Tac	Comparative Product Waste Oil
No. of Times Graded	0	0
Date of Last Grading	N/A	N/A
Dust From Car Travelling at 80 km/h	1☐ 2☐ 3☒ 4☒	1☐ 2☒ 3☒ 4☐
Potholing Frequency	1☐ 2☐ 3☐ 4☒	1☐ 2☒ 3☒ 4☒
Remarks	Second application of Petro-Tac, 3400 gal., on 83 06 28. 25% surface area hard packed. 75% surface area less than 50% hard packed.	Second application of oil, 2200 gal. on 83 06 28. North end dusty and pot-holed. 55% of surface area hard packed. 45% of surface area less than 50% hard packed.

7.3 FOLLOW-UP DUST PALLIATIVE INSPECTIONS

Road Ramblewood and Various Streets

Municipality Town of Wasaga Beach AADT 100 (Estimated)

Rating

1 None, 2 Light, 3 Moderate, 4 Heavy

INSPECTION DATE: 83 06 14 DATE SPRAYED: 83 06 09

	New Product Petro-Tac	Comparative Product Power Line Road Waste Oil
No. of Times Graded	0	0
Date of Last Grading	N/A	
Dust From Car Travelling at 80 km/h	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☒ 2 ☐ 3 ☐ 4 ☐
Potholing Frequency	1 ☒ 2 ☐ 3 ☐ 4 ☐	(a) (b) 1 ☒ 2 ☐ 3 ☒ 4 ☐
Remarks	Dime size spots not visible. Considerable loose float. Good condition.	(a) Straight sections. (b) Curves washboarded. Good condition.

INSPECTION DATE: 83 07 08 DATE SPRAYED: 83 06 09

	New Product Petro-Tac	Comparative Product Powerline Rd. Waste Oil
No. of Times Graded	0	0
Date of Last Grading	N/A	N/A
Dust From Car Travelling at 80 km/h	1 ☐ 2 ☒ 3 ☐ 4 ☐	1 ☐ 2 ☒ 3 ☐ 4 ☐
Potholing Frequency	1 ☐ 2 ☒ 3 ☐ 4 ☐	1 ☐ 2 ☒ 3 ☐ 4 ☐
Remarks	Washboard at intersection of Ramblewood. Other streets o.k.	Graded on curves. Good condition. Road damp from rain.

INSPECTION DATE: 83 07 25 DATE SPRAYED: 83 06 09

	New Product Petro-Tac	Comparative Product Powerline Rd. Waste Oil
No. of Times Graded	0	2
Date of Last Grading	N/A	N/A
Dust From Car Travelling at 80 km/h	1 ☐ 2 ☒ 3 ☐ 4 ☐	(a) (b) 1 ☐ 2 ☒ 3 ☒ 4 ☐
Potholing Frequency	1 ☐ 2 ☒ 3 ☒ 4 ☐	1 ☐ 2 ☒ 3 ☐ 4 ☐
Remarks	No complaints from residents. Loose float.	(a) Light dust on straight. (b) Moderate dust on curves.

7.3 FOLLOW-UP DUST PALLIATIVE INSPECTIONS

Road Ramblewood Dr. and Various Streets

Municipality Town of Wasaga Beach AADT 100 (Estimated)

Rating

1 None, 2 Light, 3 Moderate, 4 Heavy

INSPECTION DATE: 83 09 15 DATE SPRAYED: 83 06 09

	New Product Petro-Tac	Comparative Product Powerline Rd. Waste Oil
No. of Times Graded	2	8
Date of Last Grading	83 08 29	83 09 09
Dust From Car Travelling at 80 km/h	1☐ 2☐ 3☒ 4☐	1☐ 2☐ 3☒ 4☐
Potholing Frequency	1☐ 2☒ 3☐ 4☐	1☒ 2☐ 3☐ 4☐
Remarks	Loose float.	

INSPECTION DATE: _____ DATE SPRAYED: _____

	New Product	Comparative Product
No. of Times Graded		
Date of Last Grading		
Dust From Car Travelling at 80 km/h	1☐ 2☐ 3☐ 4☐	1☐ 2☐ 3☐ 4☐
Potholing Frequency	1☐ 2☐ 3☐ 4☐	1☐ 2☐ 3☐ 4☐
Remarks		

INSPECTION DATE: _____ DATE SPRAYED: _____

	New Product	Comparative Product
No. of Times Graded		
Date of Last Grading		
Dust From Car Travelling at 80 km/h	1☐ 2☐ 3☐ 4☐	1☐ 2☐ 3☐ 4☐
Potholing Frequency	1☐ 2☐ 3☐ 4☐	1☐ 2☐ 3☐ 4☐
Remarks		

7.3 FOLLOW-UP DUST PALLIATIVE INSPECTIONS

Road Alcona Cresent Ave., from 9th Line North to William St.

Municipality Innisfil Twp. **AADT** 200 (Estimated)

Rating

1 None, 2 Light, 3 Moderate, 4 Heavy

INSPECTION DATE: 83 06 01 **DATE SPRAYED:** 83 05 13

	New Product Petro-Tac	Comparative Product N/A
No. of Times Graded	0	
Date of Last Grading	N/A	
Dust From Car Travelling at 50 km/h	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Potholing Frequency	1 ☐ 2 ☐ 3 ☒ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Remarks	0.45 gal./sq.yd. pick up. Potholing full length. In need of grading.	

INSPECTION DATE: 83 06 14 **DATE SPRAYED:** 83 05 13

	New Product Petro-Tac	Comparative Product N/A
No. of Times Graded	1	
Date of Last Grading	83 06 08	
Dust From Car Travelling at 50 km/h	1 ☐ 2 ☒ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Potholing Frequency	1 ☐ 2 ☒ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Remarks	Good ride. Lighter in colour since last inspection.	

INSPECTION DATE: 83 09 15 **DATE SPRAYED:** 83 05 13

	New Product Petro-Tac	Comparative Product N/A
No. of Times Graded	N/A	
Date of Last Grading	N/A	
Dust From Car Travelling at 50 km/h	1 ☐ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Potholing Frequency	1 ☐ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Remarks	Petro-Tac covered with 6" Gran. 'A' on 83 07 12. Calcium chloride applied.	

7.3 FOLLOW-UP DUST PALLIATIVE INSPECTIONS

Road Line 5, From Hwy. 11, Westerly 0.2 km

Municipality Innisfil Twp. **AADT** 100 (Estimated)

Rating

1 None, 2 Light, 3 Moderate, 4 Heavy

INSPECTION DATE: 83 06 01 **DATE SPRAYED:** 83 05 13

	New Product Petro-Tac	Comparative Product N/A
No. of Times Graded	0	
Date of Last Grading	N/A	
Dust From Car Travelling at 80 km/h	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Potholing Frequency	1 ☐ 2 ☐ 3 ☒ 4 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐
Remarks	Evidence of pick up. Potholing throughout. Needs grading.	

INSPECTION DATE: 83 06 14 **DATE SPRAYED:** N/A

	New Product Petro-Tac	Comparative Product Waste Oil
No. of Times Graded	0	0
Date of Last Grading	N/A	N/A
Dust From Car Travelling at 80 km/h	(a) (b) 1 ☒ 2 ☒ 3 ☐ 4 ☐	1 ☒ 2 ☐ 3 ☐ 4 ☐
Potholing Frequency	1 ☐ 2 ☐ 3 ☒ 4 ☐	1 ☒ 2 ☐ 3 ☐ 4 ☐
Remarks	(a) Where applied heavy. (b) Where applied lighter. A little rough but in acceptable condition.	Short sections in front of houses west of Petro-Tac. Good condition.

INSPECTION DATE: 83 09 15 **DATE SPRAYED:** N/A

	New Product	Comparative Product Waste Oil
No. of Times Graded	1	0
Date of Last Grading	N/A	N/A
Dust From Car Travelling at 80 km/h	1 ☐ 2 ☒ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☒ 4 ☐
Potholing Frequency	1 ☒ 2 ☐ 3 ☐ 4 ☐	1 ☐ 2 ☐ 3 ☒ 4 ☐
Remarks	Petro-Tac covered with waste oil in first week of July.	Acceptable condition. Short sections west of Petro-Tac.

memorandum

Ontario

To: All Regional Directors
All District Engineers

Date: 1982 05 11

Attn: All Regional & District Municipal Engineers

Re: Dust Palliatives

The Ministry has been approached by suppliers of products which may be used as a dust palliative in lieu of waste oil or liquid calcium. One such product is Bond-All N.J. from Woodington Systems Inc.

The Ministry is prepared to subsidize trial of such products, but it is suggested that the trial should be located such that it may be compared against a competitive product (waste oil or liquid calcium) for evaluation purposes.

Interested municipalities are to be advised to contact the District Municipal Engineer in advance so that arrangements can be made with the road or works superintendent for suitable monitoring during the season such that a report on performance can be prepared.

The Ministry's Bituminous Section in Downsview may be contacted for technical advice. The Regional Municipal Engineer should ensure that the Head of that Section is aware of test site locations ~~creations~~ and findings. The following guidelines are suggested when considering setting up such trials.

(1) at least one mile in length, or
(2) one day's work, or
(3) 20,000 gallons of diluted product, or
(4) 50% of the dust palliative contract.

J. E. Heffernan
Manager
Municipal Roads Office
Downsview

JEH/FRM/lh

APR 18 1983

7.4 Guidelines

Ontario

Ministry of
Transportation and
Communications

Tel. (416)248-3688

Bituminous Section,
Room 317, Central Building,
1201 Wilson Avenue,
Downsview, Ontario.
M3M 1J8

May 24, 1983.

Canam Oil Services,
P.O. Box 40,
Breslau, Ontario.
N0B 1M0

Attention: R.M. Cressman

Dear Murray:

Thank you for your call on Friday outlining your plans to spray Petro-Tac in Lake of Bays and Muskoka Lakes Townships on May 26, 1983.

Field trials must be carried out on a comparative basis therefore Petro-Tac must be sprayed along side liquid calcium, waste oil or Bond-All. Ten such trials, in various locations, are necessary to evaluate your material.

Attached are the Ministry guidelines for dust palliatives.

Yours truly,

R.C. Aquin,
Supervising Inspector,
(Surface Treatments)

for: D. F. Lynch,
Head, Bituminous Section.

DFL:RCA:db

7.4 Guidelines

DUST PALLIATIVES

The Ministry has been approached by suppliers of products which may be used as a dust palliative in lieu of waste oil or liquid calcium.

One such product is Petro-Tac from Canam Oil Services.

The Ministry is prepared to subsidize a trial of Petro-Tac which is at least one mile in length but no longer than the lesser of:

(1) one day's work
(2) 20,000 gallons of diluted Petro-Tac
(3) 50% of the dust palliative contract.

The trial must be located such that it may be compared against a competitive product (waste oil, liquid calcium or Bond-All) for evaluation purposes.